Leasing Farm Equipment

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Factsheet

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Leasing is now a common method for acquiring new farm equipment. This is partly due to the increasing cost of farm equipment, which if purchasing requires large outlays of capital. Farmers are also now more comfortable with the concept of controlling, instead of owning, the asset.

This Factsheet will help farmers understand and evaluate equipment leasing and ownership arrangements.

THE BASICS OF LEASING

What Are You Paying for in a Lease?

An equipment lease payment is made up of two components. One is interest that is calculated on the entire value of the machine. The other is the principal amount, which is the sale price minus the residual value. The residual value is the value of the machine at the end of the lease period as stipulated in the lease agreement. Generally lease payments are lower than similar purchase payments because only a portion of the total cost of the machine is covered in the principal portion of the payment.

When the lease term is completed there is the option of purchasing the machine at the residual value, which represents the remaining principal payment.

How a Lease is Calculated

Despite industry efforts to improve its transparency, leases are generally confusing for most people. Lease payments are calculated based on five variables:

- the cost of the machine (also called initial value or purchase price)
- the interest rate (often called an interest or lease factor)
- the residual or termination value – the value of the leased asset at the end of a lease
- the term and
- the monthly or yearly payment

However once four variables are known, it is possible to calculate the fifth. This is especially useful for calculating the interest rate of a lease payment, allowing comparison to other leases or financing options.

TYPES OF LEASES

There are two types of leases: an operating lease and a financing or capital lease. It is important to know the type of lease as the tax treatment of each is different. Canada Revenue Agency (CRA) evaluates a lease based on the "legal relationship created by the terms of the agreement". Consult a lawyer or tax advisor if there are any concerns about the type of lease being negotiated.

Operating Lease

Sometimes called a true lease or an off balance sheet lease (see definition below), this is the lease most people are familiar with. In an operating lease, ownership of the equipment stays with lessor, the company or lender leasing the equipment to the user (called the lessee). For income tax purposes, the user of the equipment can deduct the entire amount of the lease payments as an expense.

Generally, the term of an operating lease is for less than the useful life of the equipment, and allows the user to return the equipment at the end without further obligation.

The Off Balance Sheet Lease

An operating lease is sometime called an "off balance sheet lease". This is because when an asset is purchased using a finance lease it is recorded on your balance sheet as a leased asset and the payments as a liability. In a true operating lease the balance sheet is not affected and the payments are recorded as an expense on your income and expense statement.

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Financing Lease

With a financing lease (also called a capital lease), ownership of an asset does not generally transfer to the user until the end of the lease. In a financing lease, equipment is purchased at some point in the lease, with a bargain price usually available at the end of the lease period.

The payments on a financing lease cannot be fully deducted. A calculation determines what part of the payment represents the interest charge and what part can be deducted as capital cost allowance (CCA), or depreciation. This is the same deduction as if the equipment was purchased with a loan.

Table 1, *Lease Purchase Comparison* highlights the main differences between an operating lease, financing lease and a purchase.

Table 1. Lease Purchase Comparison

	Operating Lease (True Tax lease)	Finance Lease	Purchase [2]
Definition	• Ownership stays with leasing company • User can return equipment [1]	• User becomes the owner of equipment at some point in the lease, usually at the end and at a bargain price. • The length of the lease is generally greater than ¾ of the useful life of the asset. • The lease payments represent substantially all of the value of the asset.	• User owns the asset.
Tax treatment of Payments	• All payments can be claimed as a tax-deductible expense. • Goods and Services Tax (GST) and any applicable Retail Sales Tax (RST) are combined with each payment. • Farm equipment is RST exempt. • GST may be payable on the lease payments and an input tax credit claimed.	• Full payments are not claimed as an expense. • Capital Cost Allowance and a calculated interest expense can be claimed as a tax deduction • GST may be payable on the lease payments and an input tax credit claimed.	• Interest cost on loan and depreciation (CCA) can be deducted • GST and RST, if applicable, are paid up front.
Affect on Cash flow	• Typically the cash flow requirements for leasing are less than purchasing. • Increasing the residual value or lengthening the term can reduce cash flow requirements.	• Same as the operating lease. No down payments mean that more cash can be used in other areas of the business.	• Cash requirements of servicing the loan are usually higher. There is flexibility on the term of loan.
Affect on Financial Statements and Ratios	• Called an "off balance sheet lease" because the asset does not appear on balance sheet. • If your lender is concerned about your working capital, this type of lease would be preferable. • This advantage may be overstated since most lenders require full disclosure of all liabilities.	• The equipment appears on balance sheet as a leased asset and payments as a liability.	• The equipment appears on balance sheet as an asset and the loan to finance it as a liability.

1. This is usually an option only if you're dealing with an original manufacturer of equipment. If you are leasing through a bank they usually have a clause that allows for the purchase, sale of the equipment to a third party or a re-lease of the equipment.
2. A conditional sales contract (CSC) is used to finance the purchase of the equipment from the manufacturer.

LEASE OR PURCHASE?

Deciding whether to lease or purchase depends on a number of factors.

After Tax Cost

The after tax cost of leasing verses buying is very important. If a business is in a high tax bracket and the asset has a high capital cost allowance (CAA), for tax purposes say 30 per cent, then purchasing often yields a better after tax result. This is because the CCA allowed in the first few years of ownership results in a large tax deduction.

Cash Flow Requirements

Lease payments are usually lower than loan payments, reducing cash flow requirements. If cash flow is tight then leasing may be more attractive. This is especially true if investment elsewhere in the business can return a higher rate than the cost of the lease.

Impact on Balance Sheet Financials

As mentioned above leased assets are not owned and therefore do not impact the financial ratios of the balance sheet. Owned assets do appear on the balance sheet and can affect ratios such as the current ratio (current assets to current liabilities) which lenders may use as part of their evaluation of lending limits. However lenders want to be aware of all financial obligations so this advantage may be overstated.

HOW DO YOU COMPARE? – NET PRESENT VALUE CASH FLOW

Comparing a lease verses a purchase should be done on an after tax cost basis that takes into account the timing of the payments and deductions. To do this the future payments and deductions (or cash flows) are converted to a present value using a discount factor. This method is called the net present value cash flow method. (See text box for a full explanation.)

Tax Deductions – Capital Cost Allowance, Interest and Lease Payments

An after tax comparison measures total cash outflow after considering the reduced tax payable because of the deductions that are allowed under the purchase or lease options. Farmers can deduct capital cost allowance (CAA: the tax deduction representing depreciation) and interest on borrowed money on purchased assets. If equipment is acquired through an operating lease, the entire payment can be deduced.

NET PRESENT VALUE CASH FLOW METHOD

The Time – Value Concept of Money

The net present value cash flow method is based on the time–value concept of money. This concept recognizes that money spent or received in the future is less valuable than money received or spent today. The value of a future expenditure or income in today's dollars is said to be its present value. For example if you could receive a dollar today or a dollar in a year from now, which would you choose? If received today it could be invested or used. It is therefore more valuable than a dollar received a year from now. If however you were offered $1.05 a year from now and the interest rates were 5 per cent these two offers would be equal. The present value of the future payment would be equal to $1.00. The term discount rate is used to describe the percentage used to convert future values to present values.

Present value calculations allow you to determine the least expensive alternative. Using the dollar example, if you had to pay $1.10 a year from now, or $1.00 today, which would be cheaper? Using a discount rate of 5 per cent the present value of the $1.10 would be $1.048. That means it would be less expensive to pay the $1.00 today as opposed to the $1.10 in a year from now. This same principle is used in calculating the present value of the series of payments that must be made on a loan or a lease. These are added together and discounted and the result allows a comparison to be made between the two alternatives. This is called the net present value cash flow method.

For tax purposes machinery and other depreciable assets are placed in classes, each with specific depreciation rates. For example, tractors, combines and other self-propelled machinery are in class 10, which has a capital cost allowance rate of 30 per cent per year. Equipment such as wagons, balers, cultivators, seeders and ploughs are Class 8 which has a CCA of 20 per cent per year. Assets such as grain bins are in Class 6 and have a CCA rate of 10 per cent per year.

In the year of purchase however only half of the prescribed rate can be used. These rates are applied on a declining balance as Table 2, *Capital Cost Allowance Deductions on a $100,000 Asset*, shows.

Generally farmers in a higher tax bracket who acquire an asset with a higher CCA rate find that purchasing produces a better after-tax result than leasing. This is because the CCA provides large tax deductions. Table 2, *Capital Cost Allowance Deductions*, shows that an asset depreciated at the 30 per cent rate is 80 per cent depreciated after five years. These deductions are of more benefit to farmers in the higher tax brackets.

Table 2. Capital Cost Allowance Deductions on a $100,000 Asset

	Value ($)	CCA Deduction at 30%
Year 1	100,000	15,000
Year 2	85,000	25,500
Year 3	59,500	17,850
Year 4	41,650	12,495
Year 5	29,155	8,747
Year 6	20,409	6,123
Year 7	14,286	4,286
Year 8	10,000	3,000
Year 9	7,000	2,100
Year 10	4,900	1,470

Table 3. Lease verses Purchase Comparison Example

Cost of Equipment	$120,000
Sale Price at end of loan period	$50,000
CCA Rate	30%
Tax Rate	28%
Discount Rate	5%
Lease Details	
Residual Value	$50,000
Number of payments per year	1
Term of Lease	5
Interest Factor or rate	6.0%
Lease Payment	**$18,507**
Loan Details	
Down payment	$25,000
Amount of loan	$95,000
Annual Interest Rate	6.0%
Length of Loan	5
Number of payments per year	1
Compounding periods per year	12
Payment per year	**$22,656**

LEASE OR PURCHASE COMPARISON

Table 3, *Lease verses Purchase Comparison,* is a leasing verses purchase comparison example of a $120,000 piece of equipment, including the CCA and tax rates. Tables 4 and 5 below show the net present value cash flow analysis of leasing verses buying.

Column A of Tables 4, *Lease – Net Present Value Cashflow Analysis,* and Table 5, *Purchase – Net Present Value Cashflow Analysis,* shows the total payments for leasing were $92,500, while the purchase option was $138,280. Looking at cash flow, it is better to lease. However once tax deductions are considered and the net present value calculated, purchasing appears more economical. Leasing has a net present value of $60,552 and buying a net present value of $55,836. This means that, from a total cost perspective, purchasing in this example is the better option.

There are many variables that affect the analysis. The most important are the CCA rate and tax rate. But assumptions must be made about the discount rate and the value of the purchased machine at the end of the period. In order to compare a purchase with a lease the purchased machine is deemed to be sold at the end of the time period that corresponds to the lease. The lease residual value is used as the sale price.

Comparing lease and purchase options in this way is a decision-making tool. Differences of a few thousand dollars on a large machinery purchase may be small enough to conclude that the options are comparable. Larger differences may indicate that clear preference. In either case the purpose of the analysis is to provide the business owner with information to make a reasoned decision beyond just a subjective evaluation.

DECISION-MAKING AIDS

While the net present value cash flow can be calculated using present value tables, it is easier to use the *Equipment Lease Analyser* spreadsheet available from the OMAFRA website at www.ontario.ca/agbusiness.

It is a decision-making aid to help evaluate the economic differences between leasing and purchasing equipment. The spreadsheet analyzes the alternatives on the basis of the net present value cash flow as described in this factsheet.

Table 4. Lease – Net Present Value Cashflow Analysis

Lease					
Year	Payments	Tax Deduction (A × 28%)	After Tax Cash Outflow (A – B)	Discount Factor (5%)	Net Present Value
	A ($)	B ($)	C ($)	D (%)	E ($)
Year 0*	18,500	5,180	13,320	1.000	13,320
Year 1	18,500	5,180	13,320	0.9524	12,686
Year 2	18,500	5,180	13,320	0.9070	12,082
Year 3	18,500	5,180	13,320	0.8638	11,506
Year 4	18,500	5,180	13,320	0.8227	10,958
Year 5	—	—	—	0.7835	—
Totals	**$92,500**	**$25,900**	**$66,600**		**$60,552**

* Year 0 represents the beginning of the year. Lease payment are required in advance so a payment shows in year 0 but not in year 5 since the years 1 to 5 represent the year end.

Table 5. Purchase – Net Present Value Cashflow Analysis

Purchase								
Year	Payments	Interest	Undepreciated Capital Cost (UCC)	CCA (C × 30%)	Tax Deduction [(B+D) × 28%]	After Tax Cash Outflow (A – E)	Discount Factor (5%)	Net Present Value
	A ($)	B ($)	C ($)	D ($)	E ($)	F ($)	G (%)	H ($)
Year 0	25,000					25,000	1.0000	25,000
Year 1	22,656	5,859	120,000	18,000	6,681	15,975	0.9524	15,214
Year 2	22,656	4,823	102,000	30,600	9,919	12,737	0.9070	11,553
Year 3	22,656	3,724	71,400	21,420	7,040	15,615	0.8638	13,489
Year 4	22,656	2,556	49,980	14,994	4,914	17,742	0.8227	14,596
Year 5	22,656	1,316	34,986	10,496	3,307	19,348	0.7835	15,160
Sale			50,000			(50,000)	0.7835	(39,176)
Totals	**$138,280**	**$ 18,278**		**$95,510**	**$31,861**	**$56,418**		**$55,836**

NEGOTIATION POINTS

There are several potential items open for negotiation when considering an equipment lease.

Sale Price

Negotiating a lower sales price reduces the annual lease payment and the end-of-lease purchase option price.

Lease Term

The term of a lease is probably the easiest area to negotiate. Select the lease duration that fits your farming plans for the next several years. If there is no known need to change equipment in three or four years, and if controlling an asset outside of its warranty period is no problem, consider a longer lease.

Number of Hours of Use per Year

Select the number of hours that minimizes the total equipment cost over the life of the lease. Because leases have limited hourly choices (e.g., 400, 600 and 800 hr/yr), it is important to evaluate which option is least expensive. For example, if a tractor is needed for 475 hr/yr, it might be cheaper to pay for a 600-hr lease than to choose the 400-hr lease and pay the extra charge for the additional 75 hrs. See Table 6, *Calculating Optimum Lease Hours.*

The *Equipment Lease Analyser* spreadsheet calculates the optimum hours to choose. It can be downloaded from OMAFRA at www.ontario.ca/agbusiness.

Table 6. Calculating Optimum Lease Hours

	Lease 1	Lease 2
Contract hours per year	400	600
Annual Payment	$15,000	$16,500
Charge for extra hours per hp		$0.15
Equipment Horsepower		225
Breakeven Hours		444

Conclusion: *If you anticipate using the equipment for less than 444 hr/yr, the 400-hr lease is less expensive than the 600-hr lease.*

A NEGOTIATION PLAN

A plan for negotiation might include the following steps:

- Make your best deal on the purchase of the equipment you are interested in controlling.
- Ask dealers about equipment leases they offer. Compare their lease contracts for various lease lengths and annual use. Note that the best purchase deal might include trade-in of used equipment, whereas a lease may not allow trade-ins.
- Ask dealers about options for financing purchases.
- Ask your lender how the purchase would affect your financial status and what interest rate would be charged for a loan, if needed.
- Ask your lender if they are interested in purchasing the equipment and leasing it to you.
- Before signing any lease, discuss the terms of the arrangement with your tax advisor.

CONCLUSION

Leasing allows farmers to control productive assets without owning them. Comparing a lease verses a purchase using net present cash flows can ensure you choose the best option for your business.

This Factsheet was written by **Rob Gamble**, BSc (Agr), MTax, Finance and Business Structures Program Lead, Guelph, OMAFRA.

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FOR YOUR NOTES

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